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Item 1

TITLE: Ultra high mol. wt. crosslinked polyethylene prepn. - from copolymer of ethylene and polydiene cpd..

Patentee: NIPPON OIL KK

Patent Family: JP 62243634

JP 94039499

ABSTRACT: <BASIC> JP 62243634 A 198748 Method comprises crosslinking copolymer prepd. by copolymerising ethylene and diene cpd(s). in mol ratio of diene cpd(s)/ethylene of at least 0.5 in the presence of catalyst system comprising solid catalyst contg. Mg and Ti and/or V and an organometallic cpd. in mol. ratio of Ti and/or V/diene cpd. of at least 1.0×10^{-5} and having intrinsic viscosity of at least 5 dl/g as measured at 135 deg.C in decalin and crosslinking the copolymer in the presence of organic peroxide or by irradiating radiation beams. Pref. the diene cpd. is non-conjugated polycyclic diene (e.g. 5-vinyl-2-norbornene, 5-ethyl-2-norbornene, dicyclo-pentadiene, norbornadiene or propenyl norbornene), non-conjugated aliphatic diene (e.g. 1,4-pentadiene, 1,4- or 1,5-hexadiene, etc.) or conjugated aliphatic diene (e.g. 1,3-butadiene, isoprene, etc.). The copolymerisation is at 0-90 deg.C and 0-70 kg/cm²G in gas phase or in an inert solvent.

USE/ADVANTAGE - The crosslinked copolyethylene has mol.wt. of at least 1,000,000 and high resistance to heat, solvents and abrasion and high dimensional stability and self-lubrication. It is used as a material for mfg. hopper, silo, gear, etc. or as a lining or backing material in various industrial fields. 0/0

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AB. DATE : 16-10-1992 PAT: A 4185651
PATENTEE : FUJIKURA LTD
PATENT DATE: 02-07-1992

INVENTOR : MIYATA HIROYUKI; others: 04

INT.CL. : C08J3/28; C08J7/00
C08L23/02

TITLE : PRODUCTION OF CROSSLINKED
POLYOLEFIN MOLDING

ABSTRACT : PURPOSE: To obtain a crosslinked polyolefin molding improved in the dispersion of degree of crosslinking in the direction of the thickness by irradiating a crystalline polyolefin with various ultraviolet rays of different wavelengths under specified temperature conditions.
CONSTITUTION: The objective molding is obtained by irradiating a crystalline polyolefin with various ultraviolet rays of different wavelengths under the conditions of a temperature equal to or higher than the crystalline melting point of the crystalline polyolefin. When the crystalline polyolefin is at a temperature equal to or higher than its crystalline melting point, its entire crystalline part is in a molten state, and the transparency is good. Therefore, the markedly improved transmission efficiency of ultraviolet rays increases the crosslinking efficiency.
Polyethylenes such as low-density polyethylene, high-density polyethylene, linear polyethylene, ultralow-density polyethylene and ultrahigh-molecular-weight polyethylene are particularly desirable as the crystalline polyolefins because they can give moldings of high crosslinking efficiency.